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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,790	12/29/2005	Liam Murphy	27151U	4028
²⁰⁵²⁹ THE NATH LA	7590 04/14/200 AW GROUP	EXAMINER		
112 South West	Street	LIU, BEN H		
Alexandria, VA 22314			ART UNIT	PAPER NUMBER
			2416	
			MAIL DATE	DELIVERY MODE
			04/14/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)					
Office Action Commence	10/562,790	MURPHY ET AL.					
Office Action Summary	Examiner	Art Unit					
	BEN H. LIU	2416					
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address					
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).							
Status							
1)⊠ Responsive to communication(s) filed on <u>28 Ja</u>	nuary 2009						
	/ _						
	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.						
Disposition of Claims							
4)⊠ Claim(s) <u>1-13</u> is/are pending in the application.	4) Claim(s) 1-13 is/are pending in the application						
4a) Of the above claim(s) is/are withdrawn from consideration.							
5) Claim(s) is/are allowed.							
6)⊠ Claim(s) <u>1-13</u> is/are rejected.	· · · · · · · · · · · · · · · · · · ·						
7) Claim(s) is/are objected to.							
8) Claim(s) are subject to restriction and/or	election requirement.						
Application Papers							
9)⊠ The specification is objected to by the Examiner. 10)⊠ The drawing(s) filed on <u>29 December, 2005</u> is/are: a)□ accepted or b)⊠ objected to by the Examiner.							
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).							
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).							
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.							
Priority under 35 U.S.C. § 119							
a)⊠ All b)□ Some * c)□ None of:	12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).						
·— ·— ·—	·—						
<u> </u>							
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).							
* See the attached detailed Office action for a list of the certified copies not received.							
See the attached detailed Office action for a list of the certified copies not received.							
Attachment(s)							
1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date							
3) Information Disclosure Statement(s) (PTO/SB/08) 5) Notice of Informal Patent Application							
Paper No(s)/Mail Date 6) Other:							

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DETAILED ACTION

Response to Amendment

- 1. This is in response to an amendment/response filed on January 28th, 2009.
- 2. Claims 1, 3, 8, 12, and 13 have been amended.
- 3. Claim 2 has been cancelled.
- 4. No claims have been added.
- 5. Claims 1-13 are currently pending.

Drawings

6. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

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Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (1) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 103

- 8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

- 9. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 - 1. Determining the scope and contents of the prior art.
 - 2. Ascertaining the differences between the prior art and the claims at issue.
 - 3. Resolving the level of ordinary skill in the pertinent art.
 - 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- 10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
- 11. Claims 1 and 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falco et al. (U.S. Patent 6,687,752).

For claim 1, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session between the local device and a remote device with a non-deterministic packet delay, the method comprising the steps of:

receiving a sequence of control packets from the remote device transmitting media packets in a session (see column 3 lines 17-18 and lines 40-43, which recite a receiving node that observes a progression of received RTCP packets); each control packet including a remote real time-stamp (see column 3 lines 17-18, which recite RTCP packets containing a NTP timestamp

of a remote sender); and a remote media card clock time-stamp corresponding to the remote real time-stamp (see column 3 lines 17-18, which recite RTCP packets containing a RTP timestamp of a remote sender);

comparing a first real-time stamp and a first remote media card clock time-stamp from a first received control packet with second real-time stamp and a second remote media card clock time-stamp from a second received control packet (see column 3 lines 18-21, which recite comparing the NTP and RTP timestamps of a first RTCP packet with the NTP and RTP timestamps of a second RTCP packet) to determine from the two received control packets a first relative rate of a remote media card clock to the remote real time rate (see column 7 lines 23-25, which recite comparing the difference between the two packets' RTP timestamps that represents a relative rate of the media card clock with the difference between their NTP timestamps that represents the relative rate of the real time stamps); and

transmitting a sequence of control packets from the local device transmitting media packets in the session; each control packet including a local real time-stamp; and a local media card clock time-stamp corresponding to the local real time-stamp (see column 4 lines 19-35, which recite transmitting the packets containing the localized NTP and RTP timestamp values to endpoint 18).

Falco et al. discloses all the subject matter of the claimed invention with the exception wherein the process further includes comparing a third real-time stamp and a first local media card clock time-stamp from a first transmitted control packet with fourth real-time stamp and a second local media card clock time-stamp from a second transmitted control packet to determine from the two transmitted control packets, a second relative rate of a local media card clock to the

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local real-time rate. However, Falco et al. discloses determining from received control packets a first relative rate of a media card clock to the real time rate (see column 7 lines 23-25). Falco et al. further disclose a multipoint control node 18 that localizes the received timestamps (see column 4 lines 27-63). The multipoint control node 18 then re-transmits the received packets with the localized timestamps (see column 4 lines 6-22). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to determine clock skew of the received packets that will be re-transmitted and contain the newly localized timestamps. The process of determining the clock skew of transmitted packets can be implemented by configuring the multipoint control node 18 to determine the clock skew of the received packets as taught by Falco et al. and then re-determine the clock skew after the received packets are modified with the localized timestamps. The motivation for determining the clock skew of transmitted packets in addition to determining the clock skew of received packets as suggested by Falco et al. is to verify the effectiveness of selectively calculating outgoing timestamps by localizing the incoming timestamps (see column 4 lines 1-5).

For claim 3, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session comprising the step of: synchronizing the local real time rate with the remote real time-rate (see column 4 lines 36-67, which recite adding an offset to the local timestamp in order to synchronize the clocks).

For claim 4, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session wherein the devices communicate across an Internet Protocol (IP) network (see column 1 lines 39-42, which recite transmission using IP packets).

For claim 5, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session wherein the network is one of a LAN (Local Area Network) a WAN (Wide Area Network) or the Internet (see column 1 lines 39-42, which recite transmission using IP packets).

For claim 6, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session wherein the synchronization employs the Network Time Protocol (see column 3 lines 16-18, which recite using NTP timestamps).

For claim 7, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session wherein the media packets are Realtime Transport Protocol (RTP) packets (see column 3 lines 30-34, which recite using RTP packets) and wherein the control packets are RTP Control Protocol (RTCP) Sender Report (SR) packets (see figure 3, which recite using RTCP sender report packets).

For claim 8, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session further comprising the step of: adjusting the contents of a buffer storing the media packets received from a transmitting device according to the first and second relative rates (see column 5 lines 37-42, which recite adjusting the times which packets are transmitted by the re-transmitting node such as the multipoint control unit 12 that receives and stores packets for retransmission).

For claim 9, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session further comprising the step of: determining from a difference in time between local real time when a control packet is received and the remote real time-stamp of the control packet, a first approximation of one-way media packet delay; and

determining from the first relative rate and the first approximation a skew-corrected one-way media packet delay between devices in the session (see column 4 lines 42-49, which recite the relationship between the incoming timestamp value and local time when the packet was received).

For claim 10, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session further comprising the step of: adjusting a playout strategy of the session according to the skew-corrected one-way media packet delay (see column 5 lines 37-42, which recite adjusting the times which packets are transmitted for playout by the retransmitting node such as the multipoint control unit 12 that receives and stores packets for retransmission).

For claim 11, Falco et al. discloses a method operable in a local device for determining clock skew in a packet-based session wherein the real time-stamp is a system clock time (see column 2 lines 21-29, which recite using the NTP timestamp that represents the system wall-clock time).

For claim 12, Falco et al. discloses a device arranged to determine clock skew in a packet-based session with a non-deterministic packet delay between the device and a remote device, the device being arranged to:

receive a sequence of control packets from the remote device transmitting media packets in a session (see column 3 lines 17-18 and lines 40-43, which recite a receiving node that observes a progression of received RTCP packets): each control packet including a remote real time-stamp (see column 3 lines 17-18, which recite RTCP packets containing a NTP timestamp of a remote sender); and a remote media card clock time-stamp corresponding to the remote real

time-stamp (see column 3 lines 17-18, which recite RTCP packets containing a RTP timestamp of a remote sender); and

compare a first real-time stamp and a first remote media card clock time-stamp from a first received control packet with second real-time stamp mad a second remote media card clock time-stamp from a second received control packet (see column 3 lines 18-21, which recite comparing the NTP and RTP timestamps of a first RTCP packet with the NTP and RTP timestamps of a second RTCP packet) to determine from the two received control packets, a first relative rate of a remote media card clock to the remote real time rate (see column 7 lines 23-25, which recite comparing the difference between the two packets' RTP timestamps that represents a relative rate of the media card clock with the difference between their NTP timestamps that represents the relative rate of the real time stamps).

Falco et al. discloses all the subject matter of the claimed invention with the exception wherein the process further includes comparing a third real-time stamp and a first local media card clock time-stamp from a first transmitted control packet with fourth real-time stamp and a second local media card clock time-stamp from a second transmitted control packet to determine from the two transmitted control packets, a second relative rate of a local media card clock to the local real-time rate. However, Falco et al. discloses determining from received control packets a first relative rate of a media card clock to the real time rate (see column 7 lines 23-25). Falco et al. further disclose a multipoint control node 18 that localizes the received timestamps (see column 4 lines 27-63). The multipoint control node 18 then re-transmits the received packets with the localized timestamps (see column 4 lines 6-22). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to determine clock skew of the

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received packets that will be re-transmitted and contain the newly localized timestamps. The process of determining the clock skew of transmitted packets can be implemented by configuring the multipoint control node 18 to determine the clock skew of the received packets as taught by Falco et al. and then re-determine the clock skew after the received packets are modified with the localized timestamps. The motivation for determining the clock skew of transmitted packets in addition to determining the clock skew of received packets as suggested by Falco et al. is to verify the effectiveness of selectively calculating outgoing timestamps by localizing the incoming timestamps (see column 4 lines 1-5).

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Falco et al. (U.S. Patent 6,687,752) in view of Lockridge et al. (U.S. Patent Application Publication 2004/0090994).

For claim 13, Falco et al. discloses a method to determine clock skew in a packet-based session with a non-deterministic packet delay between the local device and a remote device, the method comprising the steps of:

receiving a sequence of control packets from the remote device transmitting media packets in a session (see column 3 lines 17-18 and lines 40-43, which recite a receiving node that observes a progression of received RTCP packets); each control packet including a remote real time-stamp (see column 3 lines 17-18, which recite RTCP packets containing a NTP timestamp of a remote sender); and a remote media card clock time-stamp corresponding to the remote real time-stamp (see column 3 lines 17-18, which recite RTCP packets containing a RTP timestamp of a remote sender); and

comparing a first real-time stamp and a first remote media card clock time-stamp from a first received control packet with second real-time stamp and a second remote media card clock time-stamp from a second received control packet (see column 3 lines 18-21, which recite comparing the NTP and RTP timestamps of a first RTCP packet with the NTP and RTP timestamps of a second RTCP packet) to determine from the two received control packets, a first relative rate of a remote media card clock to the remote real time rate (see column 7 lines 23-25, which recite comparing the difference between the two packets' RTP timestamps that represents a relative rate of the media card clock with the difference between their NTP timestamps that represents the relative rate of the real time stamps).

Falco et al. discloses all the subject matter of the claimed invention with the exception wherein the process further includes comparing a third real-time stamp and a first local media card clock time-stamp from a first transmitted control packet with fourth real-time stamp and a second local media card clock time-stamp from a second transmitted control packet to determine from the two transmitted control packets, a second relative rate of a local media card clock to the local real-time rate. However, Falco et al. discloses determining from received control packets a first relative rate of a media card clock to the real time rate (see column 7 lines 23-25). Falco et al. further disclose a multipoint control node 18 that localizes the received timestamps (see column 4 lines 27-63). The multipoint control node 18 then re-transmits the received packets with the localized timestamps (see column 4 lines 6-22). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to determine clock skew of the received packets that will be re-transmitted and contain the newly localized timestamps. The process of determining the clock skew of transmitted packets can be implemented by configuring

the multipoint control node 18 to determine the clock skew of the received packets as taught by Falco et al. and then re-determine the clock skew after the received packets are modified with the localized timestamps. The motivation for determining the clock skew of transmitted packets in addition to determining the clock skew of received packets as suggested by Falco et al. is to verify the effectiveness of selectively calculating outgoing timestamps by localizing the incoming timestamps (see column 4 lines 1-5).

Falco et al. discloses all the subject matter of the claimed invention with the exception wherein the process to determine clock skew in a packet-based session with a non-deterministic packet delay between the local device and a remote device is implemented as a computer program product comprising computer program code stored on a storage medium which when executed in a local device is arranged to determine clock skew in a packet-based session. However, Lockridge et al. from the same or similar fields of endeavor disclose a jitter removal method between network nodes by using various timestamps included in transmitted packets (see abstract). The method can be implemented by loading a program onto configuration device 918 to operate Time stamp controller 916 (see paragraph 61). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the process to determine clock skew in a packet-based session using timestamps as taught by Falco et al. as a computer program as taught by Lockridge et al. The process to determine clock skew in a packet-based session with a non-deterministic packet delay can be implemented as a computer program by using a configuration device 918 as taught by Lockridge et al. to load a program that determines clock skew as taught by Falco et al. The motivation for to implementing the process to determine clock skew in a packet-based session using timestamps as a computer is to improve

the usability of the system by allowing the process to be easily configurable without modifying hardware components.

Response to Arguments

- 13. It is noted with appreciation that the Applicant has addressed the 35 U.S.C. 112, first paragraph rejection of claim 13. The Applicant's arguments filed January 28th, 2009 have been fully considered and are persuasive. Therefore, the 35 U.S.C. 112, first paragraph rejection of claim 13 has been withdrawn.
- 14. It is noted with appreciation that the Applicant has carefully considered the previous office action and cited prior art. Applicant's arguments filed January 28th, 2009 regarding the 35 U.S.C. 102(b) rejection of claims 1-12 and the 35 U.S.C. 103(a) rejection of claim 13 have been fully considered but they are not persuasive.

First, the Applicant argues that Falco et al. is not concerned with the problem addressed in each of claims 1, 12 and 13. In response to applicant's argument regarding the problem addressed in the claims, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Second, the Applicant asserts that Falco et al. does not specifically identify a media card clock. However, Falco et al. recite using timestamp clocks to generate timestamp values (see column 4 lines 6-18) wherein the timestamps may take the form of RTP timestamps (see figure

3). This is consistent with the specification of the instant application, which recites a RTP timestamp determined by the audio or video card (media) clock (see specification of the instant application, p. 6 lines 4-15).

Third, the Applicant asserts that Falco et al. does not calculate a first relative rate of a remote media card clock to the remote real time rate. It is noted that the independent claims recite, "comparing a first real-time stamp and a first remote media card clock time-stamp from a first received control packet with second real-time stamp and a second remote media card clock time-stamp from a second received control packet to determine from said two received control packets, a first relative rate of a remote media card clock to the remote real time rate." Therefore, the claim language is directed to a comparison between the real-time stamps and media card clock time-stamps of the two control packets.

Falco et al. recites comparing "the amounts by which the RTP timestamps advance from one RTCP packet to the next differs excessively from the amount by which the same packets' NTP timestamps do" (see column 3 lines 18-24). Falco et al. further specifies comparing "the difference between the two packets' RTP timestamps with the difference between their NTP timestamps" (see column 7 lines 23-25). By finding the difference of the RTP timestamps between two packets, the relative rate of the media card timestamps is calculated. By finding the difference of the NTP timestamps between two packets, the relative rate of the real-time stamps is calculated. By comparing the difference between the two packet's RTP timestamps with the difference between the NTP timestamps as recited by Falco et al., a relative rate of the media card clock and the real time clock is determined as recited by the independent claims.

Fourth, the Applicant asserts that Falco et al. does not calculate a second relative rate of a local media card clock to the local real-time rate. It is noted that the independent claims recite, "comparing a third real-time stamp and a first local media card clock time-stamp from a first transmitted control packet with a fourth real-time stamp and a second local media card clock time-stamp from a second transmitted control packet to determine from said two transmitted control packets, a second relative rate of a local media card clock to the local real time rate." Therefore, the claim language is directed to a comparison between the real-time stamps and media card clock time-stamps of the two control packets.

Falco et al. recites comparing "the amounts by which the RTP timestamps advance from one RTCP packet to the next differs excessively from the amount by which the same packets' NTP timestamps do" (see column 3 lines 18-24). Falco et al. further specifies comparing "the difference between the two packets' RTP timestamps with the difference between their NTP timestamps" (see column 7 lines 23-25). By finding the difference of the RTP timestamps between two packets, the relative rate of the media card timestamps is calculated. By finding the difference of the NTP timestamps between two packets, the relative rate of the real-time stamps is calculated. By comparing the difference between the two packet's RTP timestamps with the difference between the NTP timestamps as recited by Falco et al., a relative rate of the media card clock and the real time clock is determined as recited by the independent claims.

For at least the reasons stated above, the request for reconsideration has been considered but does not place the application in condition for allowance.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (*Please refer to form PTO-892*).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BEN H. LIU whose telephone number is (571)270-3118. The examiner can normally be reached on 9:00AM to 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/ Supervisory Patent Examiner, Art Unit 2416